



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,560	03/23/2004	Weirong Wang	5260-000201/US	2572
28997	7590	02/09/2006	EXAMINER	
HARNES, DICKEY, & PIERCE, P.L.C			MULLINS, BURTON S	
7700 BONHOMME, STE 400				
ST. LOUIS, MO 63105			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,560

Applicant(s)

WANG ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-32 and 34-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-27, 29, 30, 32, 34-46 and 48-59 is/are rejected.
- 7) ☒ Claim(s) 28, 31 and 47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on December 15, 2005 has been considered by the examiner.

### ***Claim Objections***

2. Claim 37 is objected to because of the following informalities: insert --the-- before 'body'. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. Claims 39-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 39, recitation "a female coupling on the first end of the body adjacent the finger" makes no sense because the "first end of the [end cap] body adjacent the finger" is the male end of the end cap body, the 'finger' forming the male element. Similarly, recitation "a male coupling on the second end of the body adjacent the slot" makes no sense because the "second end of the [end cap] body adjacent the slot" is the 'female' end of the end cap.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 24-27, 29-30, 32, 34-37, 39, 41-46 and 48-59 are rejected under 35

U.S.C. 102(a/e) as being anticipated by Sheeran et al. (US Patent Publication 2004/0084988

A1). Sheeran teaches an end cap or “containment structure” 30/40 (Figs.7A-7B) of an

electromagnetic machine having a stator with a plurality of adjacent segments 20

(Figs.1A&1B), the end cap including a body portion (generally corresponding to top portion

30; Figs.1A&1B) configured for positioning on a yoke portion 21 of one of the adjacent

segments (Fig.1C), the body portion having first and second ends (not numbered, Figs.7A-7B)

configured to couple to ends on adjacent end caps to substantially hold the adjacent segments

together (paragraphs 53- 54).

Regarding claim 25, the projection 700 on one end and receptive element 702 on the other end comprise first and second couplings (Figs.7A-7B).

Regarding claim 26, plural adjacent end caps are adjustably aligned and coupled together by means of the couplings 700/702 on each end cap.

Regarding claims 27 and 29, the projection 700 comprises a 'male member', the receptive element 702 the 'female member', with the female member 702 forming a 'snap slot'.

Regarding claim 30, the stator segments include a slot 505 and a ridge 504 (Fig.5B1&5B2). Figs.7A-7B show that the male member 700 lie adjacent slot 505 and female member lie 702 adjacent to ridge 504.

Regarding claims 32 and 42-43, note plural stator segments 20 and plural end caps (Figs.1A,Figs.7A-7B), each end cap's receptive element 702 comprising a slot exposing a surface of the stator segment 20 beneath it, the projection 700 comprises the finger extending from a second end having a side positioned on the same plane as the surface of the segment, i.e., the cap fits on top of the segment 20, with the finger 700 fitting within slot 702 of an adjacent end cap and the finger 700 lying against the surface of the adjacent end cap. Further, a portion of the body surface, i.e., projection 700 or receptive element 702, is positioned against the surface of an adjacent segment (Fig.7B) and aligns the segments 20 in a direction generally parallel to the stator axis with surfaces of adjacent segments lying on the same plane.

Regarding claim 34, there are plural adjacent stator segments 20 and plural end caps 30/40, with projection 700 and receptive element 702 substantially holding the adjacent segments 20 together.

Regarding claim 35, the body surface of the end cap lies against the stator segment 20 in the same plane, and a portion of the body surface, i.e., projection 700 or receptive element 702, is positioned against the surface of an adjacent segment (Fig.7B) and align the segments

20 in a direction generally parallel to the stator axis with surfaces of adjacent segments lying on the same plane.

Regarding claim 36, projection 700 comprises the finger extending from a first end.

Regarding claim 37, the receptive element 702 comprises a slot exposing a surface of the stator segment 20 beneath it, the slot 702 receiving the finger/projection 700.

Regarding method claims 44-46 and 48-58, the methods are inherent to the apparatus of Sheeran.

Regarding claim 59, the projection 700 comprises the deformable male member which snap fits into female member 702 (Fig.7B).

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claim 38 is rejected under 35 U.S.C. 103(a) as being obvious over Sheeran et al.

Sheeran's Figs7A-7B show that the male member 700 lies adjacent slot 505 and female member lies 702 adjacent to ridge 504, not the other way around as claimed in claim 38.

However, this would have been an obvious modification to Sheeran because it has been held that shifting the location of parts of an invention, i.e., reversing the location of the end cap's male and female members relative to the segment's slot and ridge, involves routine skill. In re Japikse 86 USPQ 70 (CCPA 1950).

*Allowable Subject Matter*

8. Claims 28, 31 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 28, Sheeran does not teach that the male member includes a bifurcate catch extending from the first end of the body portion which snap-fits in the female coupling member. The remaining prior art does not remedy this deficiency.

Regarding claim 31, <sup>Sheeran</sup>~~Kolomietsev~~ does not teach that the ends of the end cap define slots configured for engagement by a clip having a first portion for fitting in one of the slots and a second portion fitting in a slot in an adjacent end cap. The remaining prior art does not remedy this deficiency.

Regarding method claim 47, since Sheeran does not teach the apparatus of the clips fit into end cap slots, the method incorporating this structure is also not taught or suggested.

9. Claim 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Sheeran does not teach that the male member includes a bifurcate catch extending from the first end of the end cap body portion which snap-fits in the female coupling member. The remaining prior art does not remedy this deficiency.

Art Unit: 2834

*Response to Arguments*

10. Applicant's arguments with respect to claims 24-32 and 34-59 have been considered but are moot in view of the new grounds of rejection.

*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
06 February 2006